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EXAMINER

CHEN, TSE W

ART UNIT	PAPER NUMBER
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2116

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Election/Restrictions

- I. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-14 and 35-39, drawn to a cooling system for cooling computer systems, classified in class 713, subclass 321.
 - II. Claims 15-31, drawn to a method of cooling computer systems based on heat dissipation, classified in class 713, subclass 330.
 - III. Claims 32-34, drawn to a method for designing a cooling system operable to cool multiple computers housed in an enclosure, classified in class 713, subclass 300.
 - IV. Claims 40-46, drawn to a system comprising an enclosure housing multiple computer systems, classified in class 713, subclass 320.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed in invention I can be used to practice a different process such as: reducing power consumption of one or more electrical components in the identified computer system without prioritizing applications; placing an electrical component in a higher power state without determining whether excess cooling resources are available; and not redistributing cooling fluid to the computer systems based on the heat dissipation of each of the computer systems, while the

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process as claimed in invention II can be practiced by a different apparatus that utilizes only liquid coolant, not air, to cool the system.

3. Inventions I and III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed in invention I can be made by a different process that does not select components for the cooling system based on the nominal heat dissipation.

4. Inventions I and IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination IV has separate utility such as measuring cooling fluid temperatures before the cooling fluid absorbs heat from one computer system and measuring cooling fluid temperature after the cooling fluid absorbs heat dissipated by one computer system with temperature sensors located substantially near a cooling fluid inlets and outlets. See MPEP § 806.05(d).

5. Inventions II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination II has separate utility such as cooling computer systems not housed in an enclosure. See MPEP § 806.05(d).

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6. Inventions II and IV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed in invention II can be practiced by a system without an enclosure housing multiple computer systems to be cooled.

7. Inventions III and IV are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed in invention IV can be made by a different process that does not select components for the cooling system based on the nominal heat dissipation.

8. Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

9. This application contains claims directed to the following patentably distinct species:

10. Group A of species if invention I or II is selected:

- a. The lower power state comprises reducing power consumption of one or more electrical components in the computer systems [claims 2, 16, 24].
- b. The lower power state comprises shutting down one or more of the computer systems [claims 3, 17].

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11. The species are independent or distinct because they are capable of different modes of operations with different effects.

12. Group B of species if invention I or II is selected:

c. Controls the cooling components to distribute cooling fluid as a function of the heat dissipated [claims 8, 20, 37].

d. Controls the cooling components to distribute cooling fluid as a function of the workload [claims 14, 23, 39].

13. The species are independent or distinct because they may have different effects [e.g., workload may be load balanced without change in heat dissipation].

14. Group C of species if invention II is selected:

e. The maximum cooling capacity of the cooling system is based on a nominal heat dissipation of the computer systems [claim 18].

f. The maximum cooling capacity of the cooling system is based on an aggregate of the nominal heat dissipation of each of the computer systems [claim 19].

15. The species are independent or distinct because they may have different effects.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species from each group associated with the invention selected for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 15 and 35 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable

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thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

16. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

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application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tse Chen whose telephone number is (571) 272-3672. The examiner can normally be reached on Monday - Friday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tse Chen
March 16, 2006



LYNNE H. BROWNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100